

# Material Safety Data Sheet

(Complies with 29 CFR 1910.1200)

<b>Section I</b>			
Manufacturer	Carlisle Brake & Friction 920 Lake Road Medina, Ohio 44256		
Emergency Phone .	330-725-4941	Effective Date	February 18, 1998
Chemical Name	Friction Material	Revision Date	1-5-2015
Tradename	Sintered Friction Material		
Category	Inorganic--82-838D-1		

<b>Section II - Hazardous Ingredients / Identity</b>				
Component	OSHA-PEL (mg/m <sup>3</sup> )	ACGIH-TLV (mg/m <sup>3</sup> )	%	CAS No.
Silicon Carbide	Total=15.0 Resp.=5.0	10.0	Proprietary	409-21-2
Molybdenum disulfide	15.0	10.0	Proprietary	1317-33-5
Lead	0.05	0.15	Proprietary	7439-92-1
Iron	Total=15.0 Resp.= 5.0	10.0	Proprietary	
Tin	2.0	2.0	Proprietary	7440-31-5
Carbon	Total=15.0 Resp.= 5.0	10.0	Proprietary	7782-42-5

<b>Section III - Physical Characteristics</b>			
Boiling Point	N/A	Sp.Gr. (H <sub>2</sub> O=1)	5.1
Vapor Press (mm Hg)	N/A	Solubility in Water	Insoluble
Reactivity in Water	N/A	Vapor Density (Air=1)	N/A
Melting Point	> 1550° F	Color	Grey
Appearance/Odor	No Odor		

<b>Section IV - Fire and Explosion Data</b>			
Flashpoint	N/A	Method used	N/A
Flammable Limits (LEL/UEL)	N/A	Special Fire Fighting Procedure	None
Auto Ignition Temperature	N/A	Extinguishing Media	CO <sub>2</sub> , foam, dry chemical, water
Unusual Fire and Explosion Hazards	None		

<b>Section V - Reactivity Data</b>	
Stability	Stable
Incompatibility ( Materials to Avoid)	None
Hazardous Decomposition Products	None
Hazardous Polymerization	Will Not Occur
Conditions to Avoid	None

## Section VI - Health Hazards

### Effects of Overexposure:

- Inhalation: a) Molybdenum exposure can cause pneumoconiosis and "hard-metal lung disease".  
b) Chronic exposure to carbon as graphite dust can cause fibrosis, emphysema and corpulmonale.  
c) Tin can cause neurologic disturbances including tremors and flaccid paralysis. Exposure to dust and fumes of tin oxide causes a mild pneumoconiosis.  
f) Lead can cause sperm malformation, central nervous system disorders, peripheral neuropathy, gastro intestinal disturbances, kidney damage and anemia. Lead exposure has been reported to reduce mental ability and has been linked to birth defects. Lead is listed by IARC as Group 2B, possibly carcinogenic to humans and is also listed as a carcinogen by the EPA.  
e) Iron can cause coughing, slight upper respiratory irritation, and a metallic taste in the mouth.
- Skin: Repeated exposure to copper (as salts) may cause dermatitis. If abrasions are present, lead exposure could be significant.

### Emergency Procedures

- Eye Contact: In case of contact, immediately flush with water for 15 minutes, including under the eyelids. Seek medical help immediately if material cannot be adequately removed from the eye.
- Skin Contact: Wash thoroughly with soap and water.
- Inhalation: Following exposure to a large amount of dust, remove from exposure. If breathing has stopped, perform artificial respiration. Contact a physician.
- Ingestion: Unlikely. If ingestion occurs, contact a physician.

## Section VII - Spill/Leak Procedures

Handling, Storage	None applicable
DOT Shipping Rules	Non-hazardous as "article", no special precautions
Spill/Leak	N/A
Waste Disposal Methods	Check with local counsel for applicable laws/regulations. Lead is subject to SARA 313R reporting

## Section VIII - Special Protection /Control Measures

Respiratory Protection/Ventilation	Use a NIOSH approved respirator with appropriate filters when exposed to brake wear products. Use exhaust ventilation to keep exposure below exposure limits.
Protective Gloves	Recommended, particularly if sensitive skin.
Eye Protection	Recommended
Other Protective Equipment	N/A

## Section IX - Special Precautions

No special precautions necessary

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